



Missouri Toll Feasibility Study

PHASE I

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HNTB

In association with

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TABLE OF CONTENTS

Introduction..... 1

Project Descriptions 3

General Toll Discussion..... 5

Screening of Toll Projects..... 7

Appendix A: Proposed Project Corridors and Mainline Toll Plaza Locations

Appendix B: Corridor Development Cost Estimates Summary

Appendix C: Examples of Estimated Toll Charges for Select Travel Movements

Appendix D: Experiences & Future of Tolls in Adjoining States

INTRODUCTION

Purpose of Study

MoDOT recently completed the first part of a comprehensive statewide planning process. The Long-Range Transportation Direction was a collaboration with the state’s residents and other transportation stakeholders and establishes the direction for future transportation investments. In the LRTD, MoDOT has documented the funding gap between what Missourians want and what MoDOT can provide them with current funding.

To clarify further the picture of the state’s future transportation system, MoDOT has evaluated several funding scenarios. In the Missouri Transportation Investment Strategy – a mid-range planning document developed in support of the LRTD – MoDOT has established what needs could be met at various funding levels. Without specifying the source of the additional funds, MoDOT has identified several policy-type implementation issues that would further complement future funding scenarios. The MoTIS identifies toll financing as a possible means of raising funds for Missouri’s future transportation improvements, although MoDOT does not currently have the authority to own or operate a toll road.

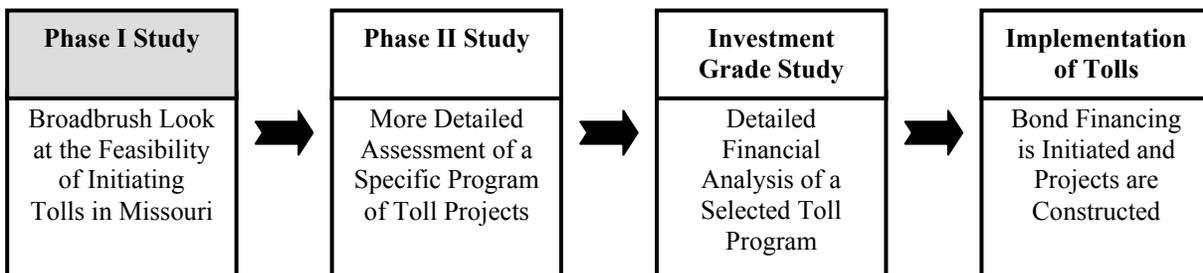
The decision to implement toll financing would require extensive public debate and represents a significant change in how MoDOT currently conducts business. The General Assembly would have to grant authority to MoDOT before a state-sponsored toll project could move forward. Meaningful contemplation of the authority to enact tolls requires a better understanding of the advantages and disadvantages toll financing offers.

The purpose of this toll feasibility study is to estimate the potential revenue that could be generated from several candidate toll projects within the state. Potential toll revenue may then be considered in combination with other possible funding mechanisms as MoDOT and Missouri’s residents continue to plan the future of the state’s transportation system.

Phased Approach

The figure shows the overall planning process for toll implementation. This study represents Phase I.

Toll Implementation Process



In Phase I, each candidate project was studied through generalized assessment methods to determine the potential viability of each project as a toll facility. General sensitivity analysis and elasticities were used to identify likely ranges for construction costs and toll revenues, depending on the type of corridor improvement and toll collection system. Based on these ranges, the likelihood of financial feasibility, using simplified cash flow models, was assessed for each project.

At the conclusion of Phase I, MoDOT may decide to study a more specific list of projects in greater detail in a Phase II study.

Toll Study Methodology

The concept of toll roads has been around since early civilization. Today, the creation of a toll road typically entails using anticipated toll revenue to secure bond financing to pay for the initial project construction and annual operations and maintenance costs. The financial feasibility of a potential toll project is based on the comparison of the toll revenue that could be generated in support of construction and other costs versus the project's actual cost of implementation.

Many candidate toll projects have been identified across the state. In most cases, these projects represent an existing Interstate, US or Missouri highway or bridge that needs upgrading and/or expansion. Two new projects were also considered – one roadway facility and one major bridge crossing. This study considered each project independently and assessed each project's ability to generate toll revenue to cover or offset the costs of building and maintaining the needed improvements. For each project, this planning-level assessment entailed:

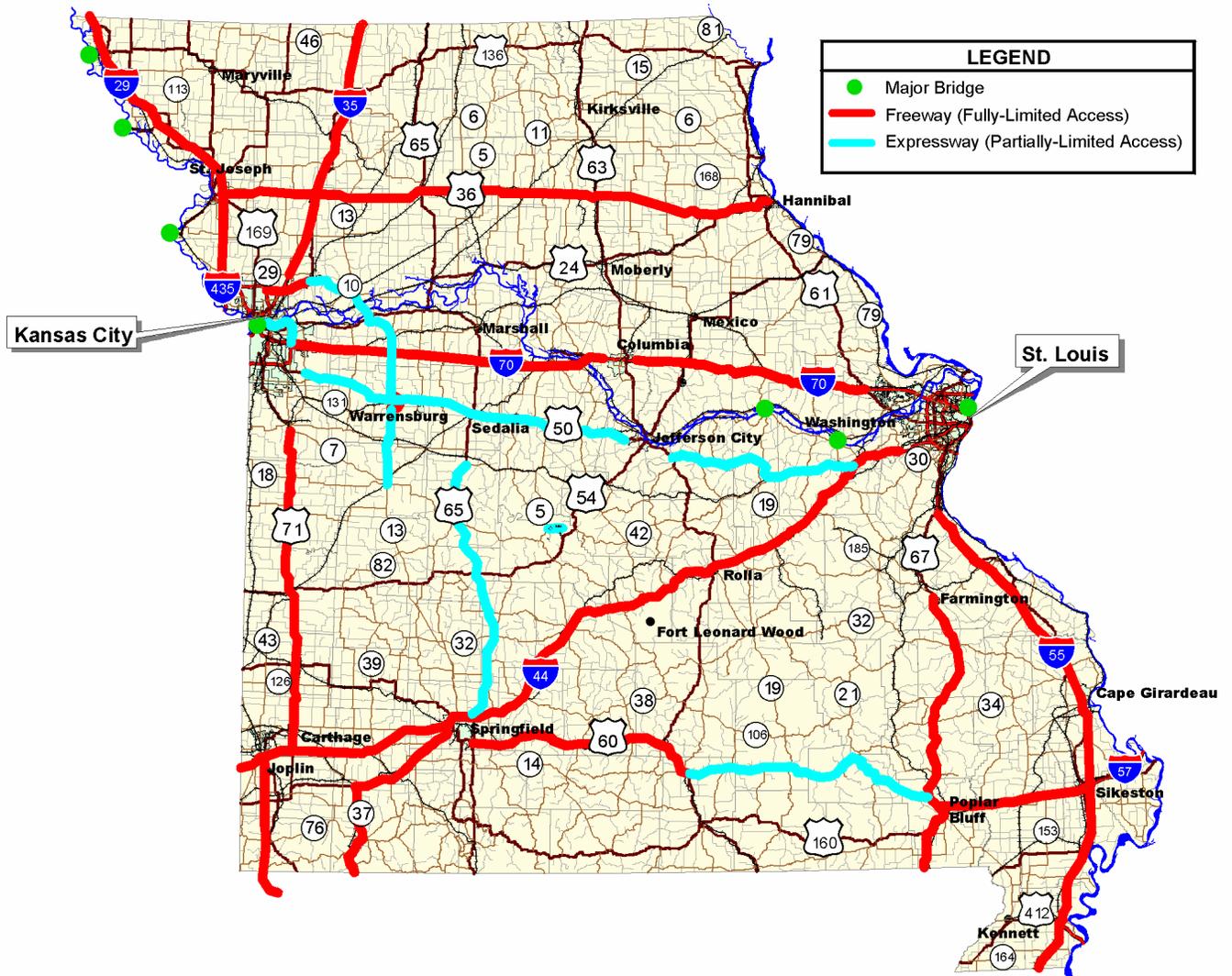
- Defining the general characteristics of the project's improvements,
- Estimating the project's cost of toll implementation,
- Projecting the potential toll road traffic and annual toll revenue,
- Estimating the potential resources available for implementation from bond financing, and
- Comparing the potential bonding capacity with implementation costs.

PROJECT DESCRIPTIONS

Using the Long-Range Transportation Direction and other ongoing planning documents, several candidate toll road projects were identified for consideration. As shown, these projects include:

- Existing Interstate Highways – I-29, I-35, I-55, I-44, and I-70.
- Existing US Highways – US 65, US 60, US 36, US 50, US 67 and US 71.
- Existing Missouri Highways – Route 37, Route 92-10-13, and Route 42.
- New Highway – Jackson County Expressway.
- Existing Major Missouri River Bridges – Route 47 (Washington), Route 19 (Hermann), US 59 (Atchison), US 159 (Rulo), US 136 (Phelps City) and I-29 (Kansas City).
- New Major Mississippi River Bridge – I-70 (St. Louis).

Candidate Toll Highway Corridors and Major Bridge Crossings



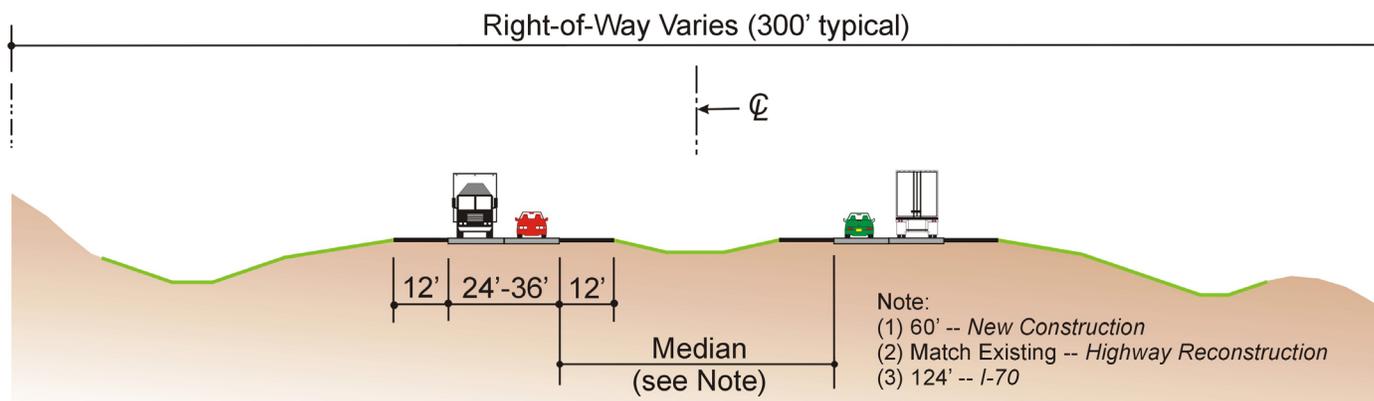
Proposed roadway improvements were identified for each highway corridor. Each highway corridor was identified as either a freeway or an expressway, depending on the type of access control. A freeway has fully limited access, which means that access to the facility would only be granted through grade separated interchanges. An expressway has partially limited access, which allows some at-grade intersections and would have a lower posted speed.

Except for the two new projects and the I-70 highway corridor, the improvements generally would entail modernizing, reconstructing, widening or expanding the existing highway to provide a four-lane freeway/expressway, according to current MoDOT design standards. For the most part, these improvements would be implemented along the existing alignment, replacing the existing highway or bridge. For I-70 between Kansas City and St. Louis, the improvements would reconfigure the existing roadway to an improved six-lane section. The Jackson County Expressway and the I-70 Mississippi River Bridge would be located on new alignments and would not replace existing facilities.

All of these projects would include appropriate toll plaza facilities for the collection of tolls. The potential locations of mainline toll plazas are shown in Appendix A.

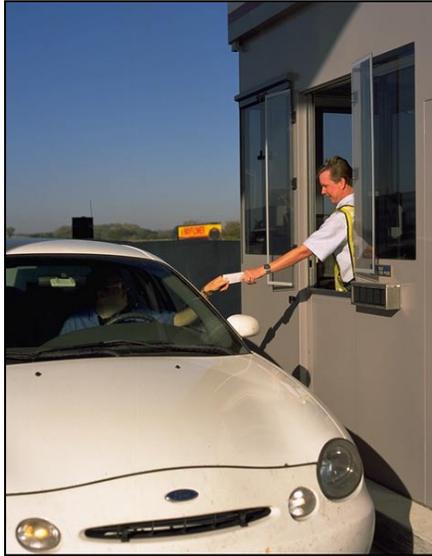
An improved freeway/expressway section is shown below. If a toll system was implemented in Missouri, it would provide a high standard of care, with an improved roadway section to ensure the facilities met current standards and provided improved service to motorists. The type of planned improvements for each project is shown in the table in Appendix B.

Improved Freeway/Expressway Typical Section



GENERAL TOLL DISCUSSION

Some of the primary goals of tolling are to provide quality service, expedite the construction process and generate revenue. To maintain toll rates at reasonable levels and provide a high standard of service, a toll system must be efficient at moving motorists through toll plazas at a minimum cost.



Toll collection along the Kansas Turnpike

Toll plaza configurations are a function of the toll collection method, the type and volume of traffic served by the plaza, toll rate schedules and the physical and environmental constraints of the site. A toll plaza is the area where tolls are collected. There are generally two types of toll plazas - mainline and ramp. A general mainline toll plaza typically offers several toll booth lanes in each direction on the mainline of the transportation corridor. The tollbooths are typically staffed with toll collectors and involve manual cash collection. Often, toll plazas will also offer dedicated electronic toll collection lanes with automated coin collection or special electronic passes for frequent toll system users. Ramp toll plazas consist of a toll plaza on a ramp, which may have a tollbooth, and one or more freestanding lanes. They are used to capture the revenues of motorists entering or exiting the toll system.

Benefits of Tolling

- Provides a dedicated revenue stream to cover roadway and bridge implementation and operation and maintenance costs.
- Provides a fair and accurate way to pay for transportation facilities – only vehicles using the system pay for it.
- Provides a high standard of care throughout the life of the facility.
- Provides congestion relief on alternate routes.
- Ensures out-of-state users pay their share of infrastructure costs.
- Accelerates the availability of start-up funding so facility is available sooner to the public.
- Uses variable rates per mile for vehicle classes so toll pricing reflects user’s variable wear and tear to facility.

In recent years, public attitude towards tolls has been changing. Most people understand that there are no free roads and that established funding sources are not always sufficient to meet growing needs of the nation’s highways.

Open-Barrier System vs. Closed-Barrier System

There are generally two types of toll systems – open-barrier systems and closed-barrier systems. In an open-barrier toll system, users pay a fixed toll fee at set mainline barrier toll plaza locations. Access points to the system may be allowed between barrier toll plaza locations, thereby allowing some trips within the system to be toll-free. In contrast, a closed-barrier system uses toll collection plazas at all or most system access points so that tolls are collected for all trips within the system. The amount of the toll typically depends on the trip distance. With this type of system, toll plazas would typically be required at all or most interchange ramps. There are advantages and disadvantages with both types of toll systems.

Pros and Cons of Open-Barrier System and Closed-Barrier System

Open-Barrier System	
Pros	Cons
Easier to retrofit on existing systems	Does not capture entire revenue stream
Less toll collection labor needed	Fixed toll fee; indifferent to trip length
Lower implementation costs	More difficult to enforce due to ability to exit system
Lower operating costs	Easier to divert to alternate routes
Allows local traffic to be toll-free	Can require multiple stops
Closed-Barrier Systems	
Pros	Cons
Variable toll fee; Dependent on trip length ⁽¹⁾	May require more toll collection labor
Captures entire revenue stream	Higher implementation costs
Easier to enforce due to closed structure	Does not allow local traffic to be toll-free
Captures all facility users	Can require more right-of-way
Can require only two stops ⁽¹⁾⁽²⁾	May have higher operating costs
	More difficult to retrofit on existing systems
	Harder to implement in urban areas due to congestion

(1) Applicable to a closed-ticket system.

(2) Closed-barrier system has the advantage of requiring just an entering and exiting stop, whereas a motorist could encounter several collection points in an open-barrier system, depending on the length of trip.

In Missouri, given the majority of the potential toll projects entail retrofitting an existing highway, an open system could be more readily built with measurably less disturbance of the adjacent land uses. Consequently, for the purposes of this study, an open-barrier system was assumed for each project.

SCREENING OF TOLL PROJECTS

Several screening criteria were used to assess the potential of the candidate toll projects. They include:

Toll Project Screening Criteria	
Financial potential	✓
Priority	✓
Agreement on multi-state projects	✓
Connectivity	✓
Independent vs. system analysis	✓
Federal Requirements	✓

Financial Potential

The financial assessment of each project provides an indication of the amount of capital funding that could be provided from toll financing. This assessment estimates the amount of capital funding that could reasonably be expected to be achieved for each project based on the estimated toll revenues less the estimated annual costs of toll collection and maintenance. This assessment is preliminary, based on planning-level methodologies, and would not be sufficient for initiating toll revenue bond financing. However, the assessments' findings can identify those projects that possess toll feasible characteristics, and can further identify the general amount of funding that could be generated for toll road construction, whether as a stand-alone project, or as a system. These proceeds could then be combined with other revenue sources to leverage fully all currently available funding. In order for these projects to proceed in the planning process, additional, more detailed study of each project, or system of projects, would be necessary.

The following table presents a summary of the financial assessment of each project, showing the range of construction costs for each project and the percent of the construction cost that could be funded through toll revenue bond financing. Aside from US 71 and possibly I-55 and I-44, additional funding would be necessary to implement any of the highway projects as toll roads. Several major bridge projects show positive financial feasibility including, MO 47 at Washington, MO 19 at Hermann, US 59 at Atchison and I-29 (Paseo Bridge) at Kansas City.



Preliminary Toll Financing Assessment

Project	2001 Construction Cost Range (\$M) ⁽¹⁾	Percent of Project Funded by Tolls			
		Less Than 40%	40% to 80%	80% to 100%	Greater Than 100%
Highway Corridors					
I-29	\$690-\$760		"		
I-35	\$540-\$600		"		
I-55	\$1,050-\$1,150			"	
I-44	\$1,800-\$1,980			"	
I-70	\$2,430-\$2,670		"		
MO 37	\$400-\$430	"			
US 65	\$430-\$470	"			
US 60	\$1,010-\$1,110	"			
US 36	\$960-\$1060	"			
US 50	\$630-\$690	"			
US 67	\$610-\$670	"			
US 71	\$400-\$440				"
Jackson Co. Expy	\$270-\$300	"			
MO 92-10-13	\$820-\$900	"			
MO 42	\$17-\$20	"			
Major Bridges					
MO 47	\$57-\$63				"
MO 19	\$36-\$40				"
US 59	\$61-\$67				"
US 159	\$35-\$39	"			
US 136	\$35-\$39		"		
I-29	\$190-\$230				"
I-70	\$600-\$660		"		

Greater than 100%: Indicates the project is financially feasible for tolling, with excess funds available.

80% to 100%: Indicates the project is potentially financially feasible for tolling.

40% to 80%: Indicates the project may be financially feasible for tolling, if considered in conjunction with other funding sources or within a system of toll projects.

Less than 40%: Indicates the project is not financially feasible for tolling.

(1) Construction Costs shown are in Year 2001 dollars and are not inflated. A mean of the high and low construction cost numbers was inflated at 2.5 percent per annum for the financial assessment.

Priority

The financial feasibility of each project is only one aspect of the overall feasibility of tolling in Missouri. The priority of each project within MoDOT’s future planning horizon is also a significant factor in deciding if tolling is right for Missouri. In order to select which routes could be feasible for tolling, it is important to consider which projects MoDOT has already included in planning efforts for the state. Both the Statewide Transportation Improvement Program and MoTIS identify projects that are considered a

priority to Missouri. The following table shows the projects in this study that are included in whole or in part in either the STIP or MoTIS.

Projects Listed in MoDOT Planning and Programming Documents

Project	STIP	MoTIS Tier II ⁽¹⁾	MoTIS Tier III ⁽²⁾
Highway Corridors			
I-29	↘		
I-35			
I-44	↘		
I-55	↘		
I-70 ⁽³⁾	↘	✓	✓
MO 37			✓
US 65			
US 60	↘		✓
US 36	↘	↘	✓
US 50			↘
US 67			✓
US 71	↘	↘	
Jackson Co. Expwy.			✓
MO 92-10-13	↘		
MO 42			
Major Bridges			
MO 47			
MO 19			✓
US 59			✓
US 159			
US 136			
I-29			✓
I-70			

(1) Tier II Projects represent projects that could be built with existing revenue projections.

(2) Tier III Projects represents projects that could be constructed with hypothetical, additional revenue projections.

(3) In MoTIS, funding is included for Interstates in a separate category. Funds have been allocated to initiate Interstate replacement throughout the state, but it will initially be focused on the reconstruction and expansion of I-70.

✓ Indicates improvements to the highway corridor or major bridge project are fully addressed in the planning document.

↘ Indicates improvements to the highway corridor or major bridge project are partially addressed in the planning document.
If blank, the project is not addressed in the document.

Agreements on Multi-State Projects

To implement a toll project that involves crossing the Missouri state line, multi-state agreements would have to be made. A multi-state toll project would not be considered feasible unless the adjoining state agreed to support it. This could involve support from both a right-of-way and financial standpoint. This

issue does not apply to all toll projects, only to those projects where the project right-of-way may extend across other states' borders, such as US 71 and some of the river bridges.

The Arkansas Highway and Transportation Department is currently studying US 71 from Bella Vista, AR to Pineville, MO. Arkansas recently initiated plans to consider this project further for tolling within an investment grade study. An investment grade study would further define the project's financial feasibility for tolling. This project could provide MoDOT the opportunity to work in conjunction with AHTD on a bi-state effort to initiate tolls on US 71.

Currently, there has been no discussion with Kansas, Illinois, Iowa or Oklahoma concerning the connection of toll roads or bridges to their state systems. If highway or bridge projects were determined to be feasible for implementation in Missouri, steps would need to be taken to address bi-state support for tolling.

Connectivity

Secondary benefits could be realized by using tolls to improve existing or add new highway corridors and major bridges to the state system. Greater connectivity, mobility, congestion relief, and improved operating levels of service are just a few of those benefits. If lanes are added, shoulders and medians are improved to current standards, Interstates are reconstructed or at-grade intersections are replaced with interchanges and frontage roads, the state's system of highways and bridges could demonstrate improved connectivity and mobility for Missourians. All of the candidate toll projects promote secondary benefits and tolls are one way to get these benefits faster.

For example, if the Jackson County Expressway was added to the state system, it could improve access and mobility for commercial traffic within the Kansas City metropolitan area. This project could result in congestion relief and improved operating levels of service for Interstate highways, including I-70 and I-435, while providing greater access to commercial and industrial destinations.

Additionally, if the I-70 Mississippi River Bridge project in St. Louis was implemented, it could provide greater connectivity for commuters and travelers between Illinois and Missouri. Current river bridges are already at undesirable operating conditions during peak periods of the day; expediting the addition of a new river crossing through toll financing could help relieve these congestion levels.

Independent vs. System Analysis

In Phase I of the study, all of the highway corridors and major bridge projects have been assessed as stand-alone projects for independent feasibility. Increased benefits may be realized through tolling if some of the stand-alone projects were assessed as a system of toll facilities, operating together. Projects that currently may be competing with each other as stand-alone facilities may complement each other if both projects were tolled as a system. In this way, much of the diversion to alternate, toll-free routes would be eliminated.

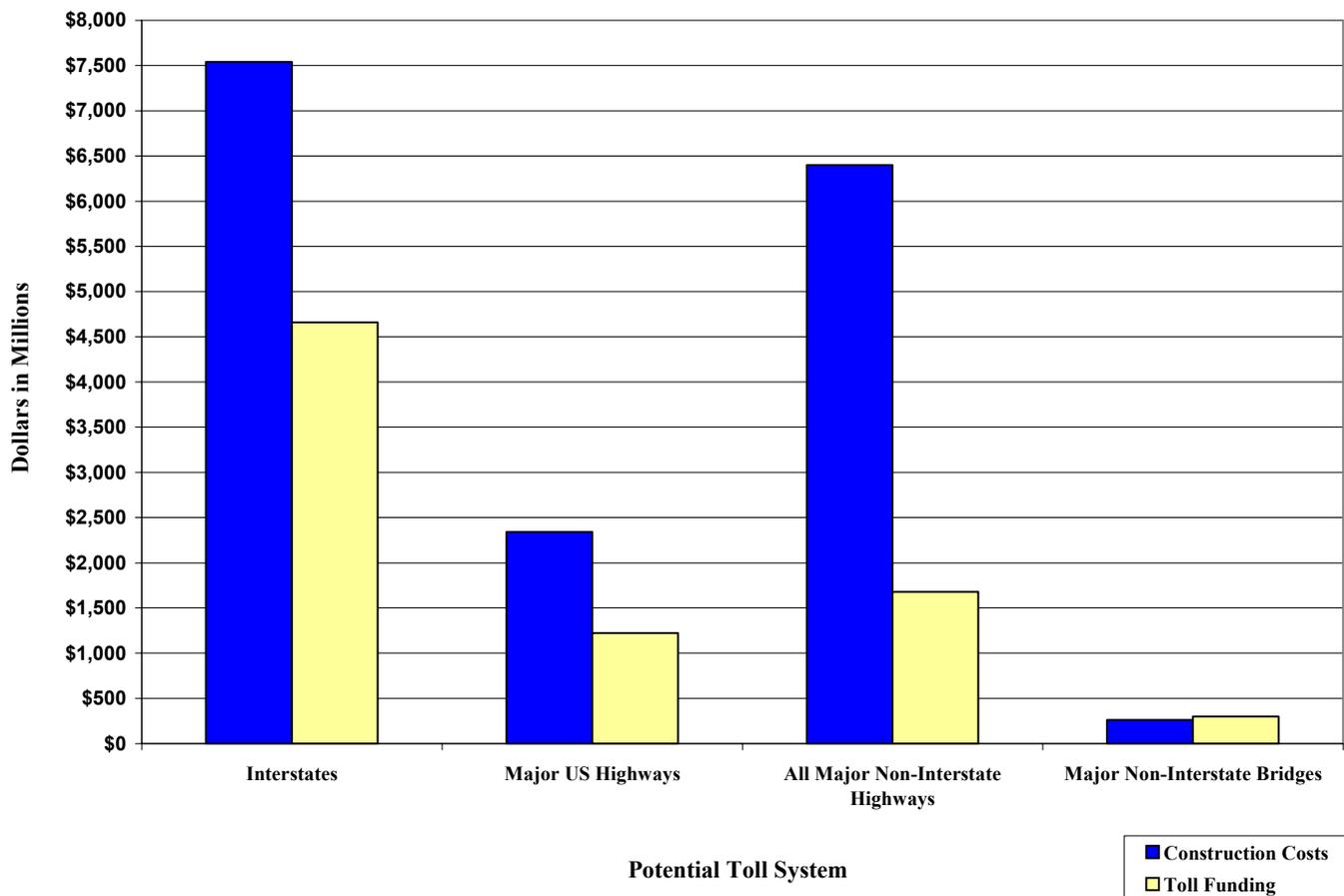
Of the interstate projects, only I-55 and I-44 are potentially financially feasible, covering 80 to 90 percent of their construction costs through bond financing. However, all of the other interstates fall within a range of 40 to 80 percent, which indicates that these routes may be financially feasible, if alternative funding sources or approaches could be considered. One alternative approach is to consider tolling all of

the interstate projects as a system. In this way, their competition with each other would be significantly decreased and those projects with higher potential to pay for construction costs through tolling could help support those that are less financially feasible at the time of implementation. The interstates are shown as a system in the following figure.

US 71 was shown to cover in excess of 100 percent of its implementation costs through bond financing. This indicates that it could function as a stand-alone toll project, if desired. Both US 60 and US 67 were shown to cover nearly 40 percent of their construction costs, indicating that if combined as a system with other, more financially viable routes, they might be feasible. For that reason, US 71, US 60 and US 67 were considered as a system of major US highways. Although Route 37, US 36, Route 92-10-13 and Route 42 did not fare well in terms of generating bond funds, they were combined as a system with all of the major non-interstate highways (including US 71, US 60, US 67, US 50, US 65, and the Jackson County Expressway).

Of the seven major bridge crossings, MO 47, MO 19, US 59 and I-29 cover more than 100 percent of their implementation costs and would provide excess funds. While the I-29 (Paseo) Bridge would cover more than 100 percent, implementing tolls on the bridge would be more physically and operationally challenging given the tight constraints of the crossing location and the nature of urban travel. I-70, US 159 and US 136 did not cover their construction costs through bond financing. All of the major non-interstate bridges could potentially be combined as a system of toll bridges.

Comparison of Construction Cost to Potential Toll Funding Generated



Federal Requirements

Current federal law restricts a state’s ability to impose tolls on existing federally-assisted highways and bridges. All of the Interstates and U.S. highways, and likely most of the state routes included in this study were originally funded or partially funded using federal funds. The following section outlines the federal programs that could potentially be used to meet the federal requirements and gain approval for tolling in Missouri:

- Tolling existing Interstate highways can be accomplished under the Interstate System Reconstruction and Rehabilitation Pilot Program (the “Interstate R&R Pilot Program”), which was authorized in TEA-21. This pilot program is currently limited to three toll facilities located in different states. Such a toll project does not require congressional approval but does require the approval of the U.S. Secretary of Transportation.
- Tolling Interstate bridges and tunnels and non-Interstate highways is authorized, without further congressional approval, by entering into a Section 129 Agreement with the U.S. Department of Transportation.
- The federal Value Pricing Program can be utilized, without further congressional approval, to construct or reconstruct tolled high-occupancy vehicle lanes on federally-assisted highways and bridges. This program is currently limited to 15 projects.
- Otherwise, conversion of a federally-assisted highway or bridge into a toll road or bridge is likely to require both congressional approval and an agreement with the U.S. Department of Transportation.

Screening Summary

The planning-level analysis of the candidate toll road projects has revealed that several of these projects could potentially be feasible as stand-alone projects, *i.e.*, the estimated toll-based funding of the project is greater than the project’s estimated capital cost. Several other projects with estimated capital funding ratios between 80% and 100% possess enough potential bonding capacity from net toll revenues, given the cursory level of detail of this study, that more detailed assessments also may deem these projects solely feasible as toll facilities. Though it is not likely that more detailed study of the other projects would change their stand-alone feasibility as toll facilities, several projects with estimated capital funding ratios between 40% and 80% could effectively contribute to the funding of a statewide toll system and/or be augmented by other funding sources. Various combinations of these projects with various additional funding scenarios could be considered in the next phase of this study to maximize the potential benefits of a statewide toll road system in Missouri.

Phase I Projects Warranting Further Study

Project	Further Study Warranted	Further Study Not Warranted
Highway Corridors		
I-29	✓	
I-35	✓	
I-44	✓	
I-55	✓	
I-70	✓	
MO 37		✓
US 65		✓
US 60		✓
US 36		✓
US 50		✓
US 67		✓
US 71	✓	
Jackson Co. Expwy.		✓
MO 92-10-13		✓
MO 42		✓
Major Bridges		
MO 47	✓	
MO 19	✓	
US 59	✓	
US 159 ⁽¹⁾	✓	
US 136 ⁽¹⁾	✓	
I-29	✓	
I-70	✓	

(1) The project is considered worthy of further study within a system of toll bridges. If US 59, US 136 and US 159 were considered as a system of toll bridges, then the opportunity for diversion to alternate bridges would be decreased.

Implementation Issues

There are a number of implementation issues that need to be considered as part of any further advancement of toll roads in Missouri.

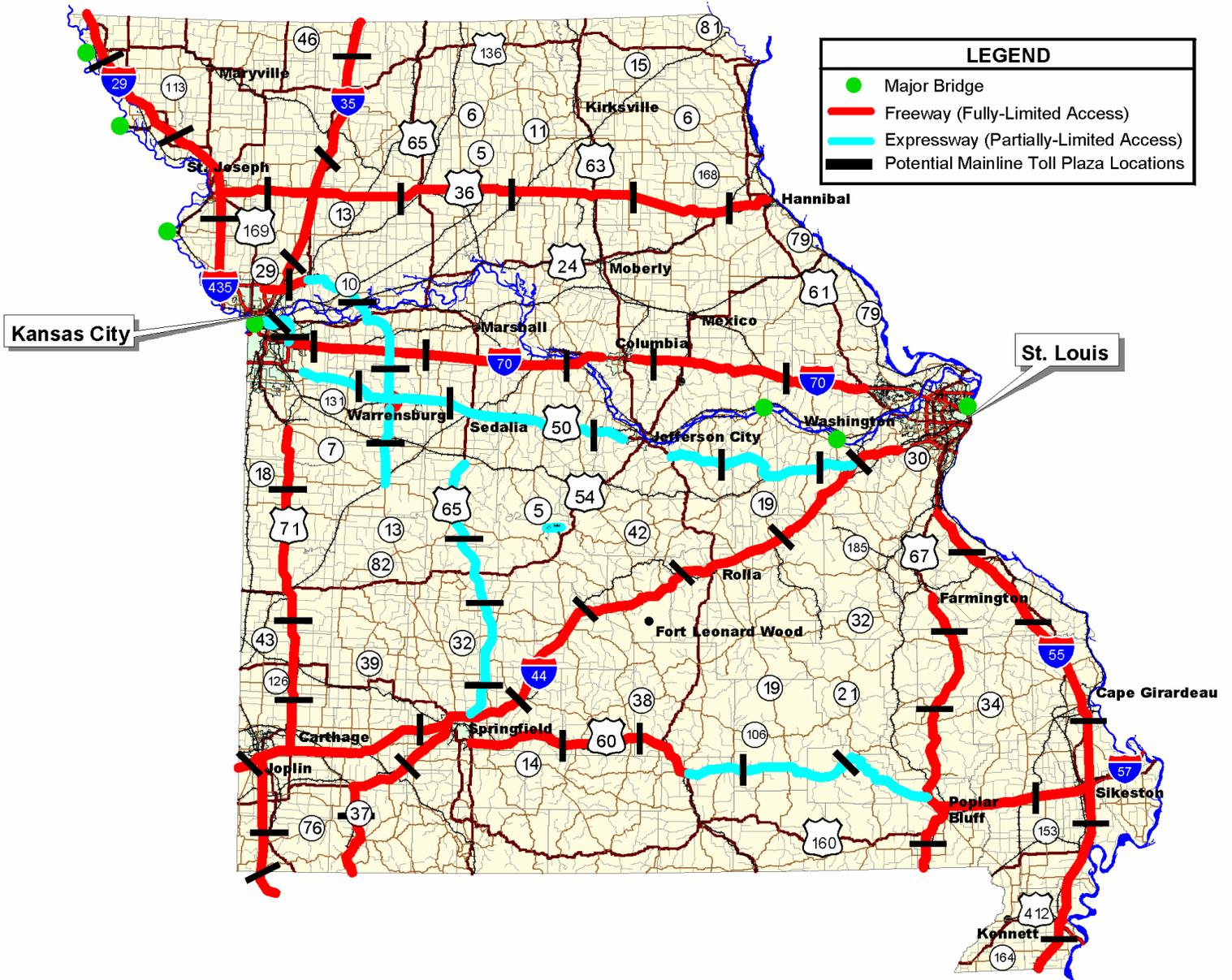
- MoDOT does not currently have the legal authority to finance, construct or operate a toll road or bridge.
- Numerous options are available for the governance of a statewide toll system and its relationship with the Missouri Highways and Transportation Commission.
- Current federal law restricts a state’s ability to impose tolls on existing federally-assisted highways and bridges.



- Assuming operating and maintenance costs are funded from tolls, MoDOT will realize a reduction in annual operating (Highway Patrol) and maintenance costs for those existing highways or bridges that are converted to toll roads.
- The State will not be able to expend Interstate maintenance funds on an Interstate that has been converted to a toll road under the Interstate R&R Pilot Program.
- If a project connects with a bordering state, Missouri will need to reach an agreement with the adjoining state before the Missouri highway corridor or bridge could be considered for tolling.
- Projects on which toll revenues are forecast to cover less than 100% of their capital costs through tolling could potentially be combined with other funding mechanisms, such as the State Road Fund, to cover the remaining capital costs.
- Further study of the I-29 and I-70 major river bridges needs to consider their relationships and impacts on other metropolitan river bridges in Kansas City and St. Louis, respectively.
- Careful consideration of toll rates should be given to ensure that the implementation of toll facilities would not cause significant diversion to alternate routes. (Examples of possible toll charges for select travel movements are shown in Appendix C.)

APPENDIX A

Proposed Project Corridors and Mainline Toll Plaza Locations



APPENDIX B

Corridor Development Cost Estimates Summary

Corridor	Limits	Length (miles)	Planned Improvement	No. of Mainline Toll Plazas	Implementation Cost ¹	
					Low-End (\$M)	High-End (\$M)
Highway Corridors						
I-29	I-435 to Iowa State Line	107	4-lane freeway reconstruction	3	\$690	\$760
I-35	MO 92 to Iowa State Line	88	4-lane freeway reconstruction	3	\$540	\$600
I-55	US 67 to Arkansas State Line	174	4-lane freeway reconstruction	5	\$1,050	\$1,150
I-44	Oklahoma State Line to Eureka	260	4-lane freeway reconstruction; 4-lane to 6-lane freeway conversion Joplin, Springfield & Rolla	7	\$1,800	\$1,980
I-70	I-470 to US 61 (excludes Columbia)	177	4-lane to 6-lane freeway conversion	5	\$2,430	\$2,670
MO 37	US 60 to Arkansas State Line	33	4-lane freeway (new alignment)	1	\$400	\$430
US 65	MO 52 to I-44	97	2-lane to 4-lane expressway conversion	3	\$430	\$470
US 60	MO 37 to I-55 (excludes Springfield)	250	4-lane freeway/expressway (new alignment)	6	\$1,010	\$1,100
US 36	I-29 to US 61	179	2-lane to 4-lane freeway conversion	5	\$960	\$1,060
US 50	MO 7 to I-44 (excludes Jefferson City)	186	4-lane expressway (existing and new alignment)	5	\$630	\$690
US 67	Farmington/MO 32 to Arkansas State Line	98	4-lane freeway (new alignment)	3	\$610	\$670
US 71	MO 7 to Bella Vista, AR (excludes Joplin to south of Neosho)	146	4-lane expressway to 4-lane freeway conversion	5	\$400	\$440
Jackson Co. Expwy	I-435 to I-470	20	4-lane expressway (new alignment)	2	\$270	\$300
MO 92-10-13	I-435 to Clinton	104	4-lane freeway/expressway (new alignment)	4	\$820	\$900
MO 42	MO 5 to Lake of Ozarks Bridge	6	new super 2-lane	0	\$17	\$20
Major Bridges						
MO 47	Washington Missouri River Bridge	4.6	2, 2-lane companion bridges	1	\$57	\$63
MO 19	Hermann Missouri River Bridge	0.4	2-lane bridge replacement	1	\$36	\$40
US 59	Atchison Missouri River Bridge	1.1	2, 2-lane companion bridges	1	\$61	\$67
US 159	Rulo Missouri River Bridge	0.5	2-lane bridge replacement	1	\$35	\$39
US 136	Phelps City Missouri River Bridge	0.5	2-lane bridge replacement	1	\$35	\$39
I-29	Paseo Kansas City Missouri River Bridge	4.2	4-lane companion bridge	2	\$190	\$230
I-70	St. Louis Mississippi River Bridge	6.5	new 8-lane bridge	3	\$600	\$660

(1) Implementation costs include design and administration, right-of-way, construction, contingencies and toll plazas.

(2) All costs are in 2001 dollars and are not inflated.

APPENDIX C

Examples of Estimated Toll Charges for Select Travel Movements

Project	Location		Estimated Toll Charge	
	From	To	Passenger Cars	Commercial Vehicles
I-29	Kansas City	St. Joseph	\$2.00	\$4.50
	Kansas City	Iowa State Line	\$6.00	\$13.50
I-35	Kansas City	Cameron	\$2.00	\$4.50
	Cameron	Iowa State Line	\$4.00	\$9.00
I-55	Arkansas State Line	Cape Girardeau	\$6.00	\$13.50
	Arkansas State Line	St. Louis	\$10.00	\$22.50
I-44	Joplin	Springfield	\$2.00	\$4.50
	Springfield	Rolla	\$6.00	\$13.50
I-70	Kansas City	Columbia	\$6.00	\$13.50
	St. Louis	Columbia	\$4.00	\$9.00
MO 37	Arkansas State Line	Aurora	\$1.50	\$3.50
US 65	Springfield	Sedalia	\$4.50	\$10.25
	Preston	Sedalia	\$2.00	\$4.50
US 60	Monett	Springfield	\$2.50	\$5.75
	Branson	Poplar Bluff	\$10.00	\$23.00
US 36	St. Joseph	Kirksville	\$6.00	\$13.50
	St. Joseph	Hannibal	\$10.00	\$22.50
US 50	Kansas City	Jefferson City	\$6.00	\$13.50
	Kansas City	St. Louis	\$10.00	\$22.50
US 67	Poplar Bluff	Farmington	\$3.50	\$8.00
US 71	Joplin	Nevada	\$4.00	\$9.00
	Joplin	Butler	\$4.00	\$9.00
Jackson Co. Expwy	I-435	I-470	\$1.50	\$3.50
MO 92-10-13	Kansas City	Springfield	\$5.00	\$11.00
	KCI Airport	Columbia	\$2.50	\$5.50
MO 19	Hermann	-	\$2.00	\$4.50
US 59	Atchison	-	\$2.00	\$4.50

- (1) Sensitivity analysis has not been done, which could change the rates shown for the corridors.
(2) All trips were estimated at an average system wide rate of five cents per mile.

APPENDIX D

EXPERIENCES & FUTURE OF TOLLS IN ADJOINING STATES

Four states surrounding Missouri have toll roads currently in operation: Illinois, Kansas, Oklahoma, and Kentucky. Three of the states, Illinois, Kansas and Oklahoma, have toll authorities to oversee all operations of the toll roads. Unlike the other three states, the Kentucky Department of Transportation is responsible for the operation and maintenance of the tollway. Kentucky has a toll authority to oversee the selling of bonds and to be responsible for record keeping. The following provides information about the operations of the respective toll authorities.

Illinois

The Illinois State Toll Highway Authority was established in 1980 to oversee the 274 miles of toll roads located within the Chicago region. Originally, the tollways were used solely as a bypass route of the downtown Chicago area. The Illinois State Toll Highway Authority consists of eleven directors including the Governor, the Secretary of the Department of Transportation (both ex officio), and nine others appointed by the Governor.

Operations

Operation of the tollway is financed by toll and concession revenues. The average toll rate for a full-length passenger car trip is 2.6 cents per mile. Illinois Tollway's 2001 annual operating revenue is \$366 million. Of that, approximately \$172 million is for operations and maintenance of which \$65 million is for toll collections. The Illinois Toll Authority has structured their debt service to be paid at an average of \$80 million through the year 2010. Tolls are collected by automatic toll machines, manual toll collectors, or the electronic toll system known as I-PASS. In 2001, 35 percent of all vehicles on the tollways used the I-PASS system.

Characteristics

The Illinois Department of Transportation is a Cabinet Level Agency run by a Secretary appointed by the Governor. The Illinois State Toll Highway Authority is a separate and independent agency. The 274 miles of toll roads in Illinois are operated as a system and the system is self-supporting. In 2001, the Illinois Governor unveiled a plan to eliminate the tolls over a 20-year period while at the same time raising tolls to pay for roadway improvements. The plan was not implemented.

Kansas

The Kansas Turnpike Authority (KTA) established in 1956 oversees 236 miles of toll roads in Kansas commonly referred to as the Kansas Turnpike. The Kansas Turnpike Authority consists of five board members: Chairman of the Kansas Senate Transportation and Utilities Committee, a member of the House Transportation Committee appointed by the Speaker of the House, the Secretary of the Kansas Department of Transportation, and two others appointed by the Governor. The Kansas Turnpike Authority is responsible for selling bonds to private investors who loan capital to finance, construct and reconstruct the turnpike. The tolls they then collect pay for operation, maintenance, and repayment of the bonds.

Operations

Operation of the Kansas Turnpike is financed by toll and concessionaire rentals. The average toll rate collected for passenger cars is 3.6 cents per mile and 10.5 cents per mile for commercial vehicles. The KTA's 2000 Operating Revenue was a little over \$63 million. That revenue is used to pay for the annual operating expenses, debt service, and capital program. Annual toll collection costs are slightly under \$10 million and debt service in 2000 was \$10.2 million. The electronic toll collection for the Kansas Turnpike is known as K-TAG. In 2000, KTAG users comprised 30 percent of the total traffic on the turnpike.

Characteristics

The Kansas Department of Transportation is a cabinet-level agency run by a Secretary who is appointed by the Governor. The Kansas Turnpike Authority is a separate and independent agency, which was created to build and operate the Kansas Turnpike. The 236-mile Turnpike is operated as a system and the system is self-supporting. The KTA's debt service has been refinanced to provide the necessary capital for roadway repairs and modernization. There are no current plans to eliminate tolls on the system.

Oklahoma

The Oklahoma Turnpike Authority (OTA) was established in 1947 to construct, operate and maintain the Turner Turnpike. In 1954, OTA's responsibility was expanded to include the construction of additional turnpikes. In 1999, the Oklahoma Turnpike Authority changed its name to the Oklahoma Transportation Authority. Today there are 566 miles of toll roads in Oklahoma. The Oklahoma Transportation Authority board consists of seven members including the Governor and one from each of the six congressional districts. They are appointed by the Governor and approved by the State Senate.

Operations

Operation of the Oklahoma turnpike system is financed by toll and concessionaire rentals. The average toll rate for passenger cars is 4.1 cents per mile and 10.6 cents per mile for commercial vehicles. The revenues generated by tolls and concessionaire rentals pays for all of the operation, maintenance, and construction costs of the Turnpike. The Operating Revenues in 2000 were \$132.8 million of which \$14.2 went to toll collections and \$35.6 million went to debt service. PIKEPASS is the electronic toll system for the turnpike. PIKEPASS users comprise 49 percent of the total vehicle traffic.

Characteristics

The Oklahoma Department of Transportation is headed by a Director who reports to the Secretary of Transportation who is appointed by the Governor. The Oklahoma Transportation Authority is a separate agency from the State DOT. The Authority has its own members, who are appointed by the Governor. However, the turnpike system also reports to the Secretary. The 566 miles of toll roads in Oklahoma are operated as a system and the system is self-supporting. There are no current plans to eliminate tolls on the Turnpike.

Kentucky

The Kentucky Tollway System was established in the early 1950's. At one time, there were more than 600 miles of tollways, however, today there are only 329 miles. The toll authority for Kentucky is not a self-supporting entity. The Toll Facilities Division of the Kentucky Transportation Cabinet functions as the operating authority for the toll roads. There is also a Toll Authority, which is responsible for selling bonds and keeping the records.

Operations

The Kentucky Transportation Cabinet is responsible for the operation and maintenance of the tollways. The tollways generated approximately \$18 million in toll revenue in 2000. The toll revenue is deposited directly into the State’s General Fund. The estimated operations cost for the tollways is approximately \$6 million. The average toll rate collected for passenger cars is 2.14 cents per mile.

Characteristics

The Kentucky Transportation Cabinet is headed by a Secretary who is appointed by the Governor. The Kentucky toll roads are not operated as a system and are not self-supporting. The bonds held on the current tollway system are expected to be paid off in 2006. The Governor could choose to pay the bonds off early. Once the bonds are paid off, the tolls are expected to be removed.

Overview

The following table provides comparisons of the four states with toll roads that are adjacent to Missouri.

State Toll Operations Comparison Summary

Factor	Illinois ⁽¹⁾	Kansas	Oklahoma	Kentucky
Toll Authority	Illinois State Toll Highway Authority	Kansas Turnpike Authority	Oklahoma Transportation Authority ⁽²⁾	Toll Facilities Division of KY Transportation Cabinet
State DOT Structure	Cabinet Secretary appointed by Governor	Cabinet Secretary appointed by Governor	Headed by Director who reports to Cabinet Secretary appointed by Governor	Cabinet Secretary appointed by Governor
Toll Roads Self-Supporting	Yes	Yes	Yes	No
Plans to Discontinue Tolls	Gov. proposed plan to eliminate tolls; not implemented	No	No	Yes
Miles of Tollway	274	236	566	329
Lane Miles	1650	962	2264	1190
Annual Toll Transactions	725,000,000	29,654,000	84,235,000	23,162,000
Annual Operating Revenue	\$366,500,000	\$63,400,000	\$132,800,000	\$18,000,000
Annual Operating Cost	⁽³⁾	\$9,700,000	\$14,200,000	\$6,000,000
Operating Costs per Toll Transaction	⁽³⁾	0.33 cents	0.17 cents	0.25 cents
Annual Roadway Maintenance Cost	\$26,600,000	\$7,300,000	\$10,600,000	N/A
Average Passenger Car Toll Rate Per Mile	2.6 cents	3.6 cents	4.1 cents	2.1 cents
2001 Capital Program	\$137,300,000	\$30,000,000	\$47,600,000	N/A
Operating Revenue per Lane Mile	\$222,000	\$65,900	\$58,700	\$15,126
Maintenance Cost Per Lane Mile	\$16,200	\$7,600	\$4,700	N/A
Electronic Toll Collection	I-PASS	K-TAG	PIKEPASS	N/A

(1) Numbers for Illinois are for 2001, except maintenance costs that are for 2000. Numbers for all other states are for 2000 except for the Capital Program numbers which are for 2001 for all states.

(2) The Oklahoma Turnpike Authority officially changed its name to the Oklahoma Transportation Authority in 1999.

(3) An operating cost number that was comparable to the other states was not available for the Illinois Tollway.